October 31, 2015

Taylor High School

Hands-On Contest

"By the pricking of my thumbs, something wicked this way comes." - William Shakespeare

#	Problem
1	It's the Great Pumpkin, Charlie Brown
2	Nice to Eat You
3	Fall of the House of Usher
4	Don't Be Afraid
5	What's Your Number?
6	Lycanthropy Therapy
7	It's All in the Cards
8	Boorito
9	Yer a Wizard, Hairy
10	Trick-or-Treat
11	Demonic Logic
12	I Can't See Jack
13	Dictation Deadication
14	The Graveyard Shift
15	Good Knight

You will have 2 hours to complete the programming portion of the contest. Each problem is worth 60 points. There is a 5 point deduction for each incorrect submission to a problem that is later solved. If a problem is never solved, no points will be deducted from the overall score. Problems are not in any order of difficulty.

7. It's All in the Cards

"If you're playing a poker game and you look around the table and can't tell who the sucker is, it's you."
- Paul Newman

General Statement: The Halloween Poker Party is a highly anticipated event among the supernatural. The Grim Reaper is inarguably the best player, but he is frequently called away on business and thus can't keep track of his cards. He has a minion at the game update him through the spiritual plane, but this year's minion is unusually inept and can't tell the difference between a flush and a straight. Write a program which tells the minion the Grim Reaper's poker hands. Hands are classified by their highest possible value.

Below, hands are organized from highest to lowest value. An ace can be a high or low card.

Straight Flush	Five cards in sequence with all five cards of the same suit. A straight flush with an ace as its high card is called a *royal flush*. AS, KS, QS, JS, 10S is a royal flush. 7H, 6H, 5H, 4H, 3H is a straight flush.
Four of a kind	Four cards of the same rank. QH, QS, QD, QC, 6D is a four of a kind.
Full house	Three cards of one rank plus two cards of another rank. 10C, 10D, 10H, 6H, 6D is a full house.
Flush	Five cards of the same suit. AD, JD, 9D, 7D, 2D is a flush.
Straight	Five consecutive cards. AS, KH, QH, JS, 10S is a straight.
Three of a kind	Three cards of the same rank. AS, AH, AD, QC, 3S is a three of a kind.
Two pair	Two cards of one rank plus two cards of another rank. AS, AH, QD, QC, 4C is a two pair.
One pair	Two cards of the same rank. 3H, 3S, 9H, 2C, QC is a one pair.
No pair	None of the above.

Input: The input will consist of an unknown number of poker hands, one per line. Hands always consist of five cards, separated by spaces. S, C, D, and H are spades, clubs, diamonds, and hearts. Cards are represented as *numberSuit* or *faceSuit*, so 2S is the 2 of spades and QC is the queen of clubs.

Output: For each poker hand, print its highest classification. Capitalize the first word.

Sample Input:
```
AS KS QS JS 10S
QH QS QD QC 6D
AD JD 9D 7D 2D
AS AH QD QC 4C
6H 8C 7C 2S 3D
```

Sample Output:
```
Royal flush
Four of a kind
Flush
Two pair
No pair
```